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ABSTRACT

A study evaluated the Early Childhood Resources Teacher Training Project (TTP). The purpose of the TTP is to train preschool and early primary grade teachers in developmentally appropriate practices. The evaluation sought to: (1) determine the extent to which teachers undergoing training were able to understand and implement the content of the TTP; (2) assess the impact of training teachers in developmentally appropriate practice on the children they teach; and (3) measure the effects of training on the participants' colleagues, school administrators, and schools. Six case studies were initiated when a new group of teachers began a 2-year training cycle. Each teacher worked at a different school, with a proportionate number teaching kindergarten and first grade. The findings of the study suggest that teachers' participation in the training influenced their classroom practices, children's engagements in the classroom, and the teachers' school administrators and colleagues. Overall, the evaluation demonstrated that the TTP has important knowledge for schools and teachers interested in implementing a developmentally appropriate approach in their educational program. (Six appendices include a draft of the Early Primary Practices Observation Scale; interview questions for the teachers, administrators, and colleagues; and observational indicators of children's engagement.) (SW)

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The Teacher Training Project: Study of the Implementation of Developmentally Appropriate Practice in Classrooms and Schools

Final Report

April 1994

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The Teacher Training Project: Study of the Implementation of Developmentally Appropriate Practice in Classrooms and Schools

Final Report

Far West Laboratory
for Educational Research and Development

April 1994

This evaluation project was completed under subcontract with Early Childhood Resources. It was supported by a grant from the Stuart Foundations to Early Childhood Resources.

The Teacher Training Project: A Study of the Implementation of Developmentally Appropriate Practice in Classrooms and Schools Final Report

Over the past three years, Far West Laboratory for Educational Research and Development has conducted an evaluation of the Early Childhood Resources Teacher Training Project. The purpose of the Teacher Training Project (TTP) is to train preschool and early primary grade teachers in developmentally appropriate practice. The core of the TTP is the High/Scope curriculum. Additional elements in the training approach have been drawn from other work in the area of developmentally appropriate practice. Detailed descriptions of the TTP can be found in project reports to the Stuart Foundations and in a chapter by Mangione and Maniates (1994).

The focus of the evaluation was threefold. First, we attempted to determine the extent to which teachers going through the training were able to understand and implement its content. Teachers were interviewed at two points in time -- at the start of training and at its completion. The interviews gave insight into the teachers' perspectives on child development and learning as well as their understanding of developmentally appropriate practice. A classroom observation scale was developed to assess the degree to which the teachers' classrooms reflected elements of developmentally appropriate practice. The Early Primary Practices Observation Scale (EPPOS) consists of twenty-nine items representing four domains of developmentally appropriate practice:

- The Learning Environment
- The Curriculum and Materials
- The Daily Routine
- Adult Interaction and Intervention with Children

About one-half of the items are based on High/Scope's Program Implementation Profile (PIP), and the other half are items developed for this evaluation that referred to different aspects of the TTP content. Appendix A of this report provides a copy of the scale.

The second focus of the evaluation was on the impact of training teachers in developmentally appropriate practice on the children they teach. Several types of data were gathered to measure the effects of the teacher training on the children. We conducted observations in the classrooms to document the children's level of engagement in learning activities. The teachers were asked to rate the children on their presented self-esteem. Attendance data were collected along with other school record data, including, when available, test scores. In addition, we examined samples of

children's portfolios to see if information in the portfolios could be used as indicators of their educational progress.

Finally, the evaluation focused on the effects of the training on the participants' colleagues, school administrators, and schools. We interviewed administrators and other teachers in the target schools to find out the extent to which the teachers who participated in the TTP influenced the adoption of developmentally appropriate practices and policies to support those practices.

Before following six teachers over the two years of training, we interviewed nineteen teachers who had already completed the training (Mangione, 1992). Teachers reported making changes in their classrooms that corresponded to the content of the TTP. Preliminary visits to three of these teachers' classrooms indicated that the children were highly engaged in learning activities. These findings influenced the development of measures of classroom practices and of student's use of time in the target teachers' classrooms. The key question that we had to answer first was whether teachers could effectively implement the training content. An examination of the training content and the classrooms of graduates led to the conclusion that increasing children's engagement in school should be a major outcome of the training. We also expected that both school administrators and other teachers in the schools would become interested in the changes in classrooms that effectively engage children in learning.

This report will document the process whereby teachers implement developmentally appropriate practice and shed light on the short range effects of emphasizing child-centered learning in early primary classrooms. Information will be reported both across classroom settings and on a case-by-case basis. In so doing, we will examine the general effectiveness of the TTP as well as the adaptations of individual teachers to the training experience.

METHOD

Teachers and Schools

Six case studies were initiated in the fall of 1991, at the time a new cohort of teachers began a two-year training cycle of the TTP. Of the six teachers selected for study, three taught kindergarten and three first grade. Each of the teachers worked at a different school, and only two of them represented the same school district. Two of the schools were located in an urban school district, three in suburban districts, and one in a rural district. On the whole, the sample of students was economically, ethnically, and culturally diverse, as the following descriptions indicate.

School A is a suburban elementary school with preschool through third grade classrooms. About 70% of the children come from homes where Spanish is the primary language. Small percentages of African American, Pacific Islander, Filipino, and Caucasian attend School A. Many of the children belong to low-income families whose adult members often have limited proficiency in speaking and reading English. Unemployment is high in the community.

School B is a suburban elementary school with kindergarten through fifth grade classrooms. Spanish is the home language of about 75% of the children. About 16% of the children are Caucasian (English speaking). Small percentages of African American, Asian, Filipino, Pacific Islander, and Native American children also attend School B. Many children belong to families whose adult members have limited proficiency in speaking and reading English. Adult members of most of the families are unskilled and, when employed, work in low paying service jobs. Some families receive AFDC support. Unemployment is high in the community.

School C is an elementary school with kindergarten through fifth grade classrooms located in a suburban neighborhood. About 90% of the families are Caucasian (English speaking). Small percentages of mostly Asian American and Latino American students also attend School C. Many of the children come from middle income families.

School D is an urban elementary school with kindergarten through sixth grade classrooms. This school is a magnet school with an emphasis on science and technology. Over 90% of the children are African American. Some Caucasian and Asian American children also attend School D. There is a small percentage of non-English speaking families. About one-half of the children come from middle income families. The other half of the students primarily belong to families whose adult members are either employed in low paying service jobs or are supported by public assistance.

School E is an urban elementary school with kindergarten through fifth grade classrooms. A large percentage of the student population is African American. Latino American and Asian American children also attend School E. Many of the families served by School E are low income. Most of the children belong to families whose home language is English.

School F is located in a small community in a rural setting. It has kindergarten through fifth grade classrooms. The student population is mostly Caucasian. In addition, there is a small percentage of Spanish speaking families. Adult members of the families are employed in a variety of occupations, ranging from farmworker to vintner.

Evaluation Design

The teachers and their classrooms were followed over a two-year period of time. Table 1 illustrates the various data collection activities that occurred (see page 8).

At the commencement of training, observers rated the extent to which the classrooms of these teachers could be described as developmentally appropriate. The observers had previously had classroom teaching experience and were all trained by the director of this evaluation project. An assessment consisted of two visits to a classroom within a three week period of time. We conducted three additional assessments of developmentally appropriate practice over the two years of training. The second EPPOS assessment took place in the spring of 1992, the third in the fall of 1992, and the fourth in the spring of 1993. The four time periods of measurement made possible the tracking of changes in teachers as they participated in the training. We observed the sequence and amount of change across time.

Teachers were interviewed by a research assistant two times, at the onset and at the conclusion of training. The interviewer asked teachers to describe their current practices, their understanding of children's learning, their approach to assessing students' performance, and their school's general policies around issues such as retention and special education placement. The teacher interview forms for the Time 1 interview and the Time 2 interview appear in Appendix B of this report.

Children's level of engagement in each of the study classrooms was documented during two time periods, in the winter of 1992 and the winter of 1993. Observers were trained by the director of the evaluation to use a point time sampling procedure to scan the classroom and record each child's activity during free choice time. In both years of the study, an observer visited each classroom at least five times within a three to four week period of time. During each visit several observational scans were performed. The intent of the multiple visits and multiple scans each visit was to obtain a representative sampling of each child's use of free choice time.

The categories used to record children's activity were developed in collaboration with Early Childhood Resources. Since the TTP aims to foster autonomous learning and collaborative learning in children, the category scheme was designed to document children's tendency to engage in constructive activity, both autonomously and collaboratively. There was also an interest in the extent to which children interact constructively with an adult during free choice time. In addition, nonengagement, e.g., wandering or daydreaming, was recorded. It should be noted that an effort was made to record children's engagement by the subcategories of language/literacy and math/science, but, because of the integrated nature of the curriculum, observers were unable to distinguish reliably between those two subcategories. Appendix C provides definitions of the major categories used to record children's engagement during free choice time.

The point time sampling procedure allowed us to compute the percentage of time that children engaged in various activities. Summing across observation visits produced a measure of the average proportion of time each child engaged in constructive autonomous activity, constructive collaborative activity, constructive interaction with an adult, and nonconstructive or unfocused activity.

A different group of children was observed in each of the classrooms each year. These data allowed for the comparison of the engagement of similarly aged children in classrooms shortly after the teachers began training and one year later. It was anticipated that differences in the children's engagement between the 1991-92 and 1992-93 school years would be related to changes in the classrooms.

In addition to the classroom observations of children's use of time, teachers rated the same children's presented self-esteem using the "Rating Scale for Classroom Behaviors of Preschool Children." This 24-item scale was developed by Jane Haltiwanger (for a copy, see Appendix D). The scale, which has been used with children ranging in age from 3 to 7, has been shown to be both valid and reliable (Haltiwanger, 1989). The conceptual underpinnings for the scale come from the work of Susan Harter and James Connell, who have studied children's sense of

competence and engagement in learning throughout childhood and adolescence. Of particular interest for the present evaluation were the items from Haltiwanger's scale that identified CONFIDENCE and APPROACH behaviors. The scale identifies five different dimensions of the confidence theme:

1. Initiative/Independence
2. Preference for Challenge
3. Social Approach/Avoidance
4. Social-Emotional Expression
5. Coping/Ego Strength

The teachers rated the children in their classrooms both in the 1991-92 and 1992-93 school years. We wanted to see whether teachers' perceptions of their students' confidence and approach to learning activities changed as the classrooms became increasingly student centered.

In the spring of 1993, a research assistant gathered data on the portfolios of ten children from each of the focus classrooms. The form for collecting information from the portfolios is in Appendix E of this report. The purpose of documenting the contents of the children's portfolios was to determine whether the material could be used for a valid and reliable assessment of educational progress. An attempt was made to categorize the content of the portfolios and document the sequence and consistency with which a certain type of item, e.g., a story dictation sample, appeared in a portfolio. We also interviewed the teachers to find out their rationale for including different types of items in a child's portfolio.

In the summer and fall of 1993, a research assistant collected school record data for children who attended the focus classrooms in either the 1991-92 or 1992-93 school years. School attendance data and, if available in both school years, standardized test data were gathered. The data collection form for the school record data can be found in Appendix F. Using school record data, we wanted to examine whether the implementation of developmentally appropriate practice influenced children's participation and performance in school.

Interviews of school administrators and other teachers at each of the six focus schools occurred at the end of both the 1991-92 and 1992-93 school years. The same administrators were interviewed both times, and a different set of other teachers was interviewed each year. The interviews sought information from the administrators about their knowledge of the TTP, the amount of information they received from the focus teacher about the training, the manner in which the focus teacher communicated to colleagues about developmentally appropriate practice, and the extent to which they

would like to receive additional information about the TTP approach. The school administrators also responded to questions about their schools' staff development policies and practices, their philosophy of staff development, and barriers to changing classroom practices. The interview forms for school administrators appear in Appendix G and for colleagues in Appendix H.

Table 1

Data Collection Activities

Data Collection Activity	Fall 1991	Winter 1992	Spring 1992	Fall 1992	Winter 1993	Spring 1993	Summer 1993
Classroom Observations (EPPOS)	X		X	X		X	
Teacher Interviews	X					X	
Classroom Observations (Children's Engagement)		X			X		
Teacher Ratings of Children		X			X		
Documentation of Student Portfolios						X	
Collections of School Record Data							X
Interview of Administrators and Other Teachers	X					X	

Note. A brief follow-up interview on the focus teachers' retention policies and practices was conducted in February, 1994.

RESULTS

Reliability of Measures

The reliability of the EPPOS was assessed by having two observers independently observe each classroom at the same time. The observers did not discuss their impressions of the classroom while doing the reliability observations or at any time see each other's ratings. Reliability assessments were conducted each of the four times of measurement. Over the four times of measurement the percentage of exact agreements was found to be 62%, and the percentage of agreement within one point on the scale was 87%. It is noteworthy that after the first time of measurement the reliability of the observers improved. An analysis that excluded reliability data from the first time of measurement resulted in a percentage of exact agreements of 68% and a percentage of agreements within one point on the scale of 93%. Cronbach's Alpha was computed at each time of measurement as well. The Alpha level was .97 at the first three times of measurement, and .98 at the fourth time of measurement, with 1.00 being the maximum level the measure could attain. In general, the reliability of the EPPOS was judged to be at an acceptable level.

The reliability of the classroom observations of student engagement was assessed by having two independent observers observing the same child at the same instant in time and then coding that child's activity. Reliability data were gathered in both years of the project. The percentage of exact agreements on the major activity codes (e.g., autonomous, collaborative, or disruptive) was 76%. For the subcodes of activity content (language/literacy or math/science), the level of agreement never exceeded 50%. As a result, the subcodes of activity content were excluded from the analysis of data.

The reliability of the "Rating Scale for Classroom Behaviors of Preschool Children" was determined through computing Cronbach's Alpha for the scale. The analysis resulted in an Alpha of .93, which matched levels found with other samples (Haltiwanger, personal communication). The teacher rating scale was generally found to be a robust measure.

Teachers' Implementation of the TTP Approach

The four subscales of the EPPOS (Learning Environment, Curriculum and Materials, Daily Routine, and Adult Interaction and Interventions with Children) formed the basis for the analysis of classroom practices. The pattern of change in the six focus classrooms can be seen in Tables 2-5.

Table 2

Mean EPPOS Ratings Over Four Times of Measurement
Subscale: LEARNING ENVIRONMENT

Classroom	Fall 1991	Spring 1992	Fall 1993	Spring 1993
School A	4.43	4.71	4.86	5.00
School B	4.00	4.57	5.00	4.71
School C	4.86	4.86	5.00	5.00
School D	3.57	3.86	3.71	3.86
School E	2.14	4.00	4.29	4.14
School F	3.86	4.71	4.86	4.71
Grand Mean	3.81	4.45	4.62	4.57

Note. The ratings on the EPPOS ranged from 1 through 5.

Table 3

Mean EPPOS Ratings Over Four Times of Measurement
Subscale: MATERIALS AND CURRICULUM

Classroom	Fall 1991	Spring 1992	Fall 1992	Spring 1993
School A	4.00	3.70	4.70	4.50
School B	3.80	4.70	4.50	4.80
School C	4.70	4.70	4.60	4.70
School D	3.20	2.70	3.30	3.00
School E	2.50	3.10	3.20	3.40
School F	4.00	4.40	4.60	4.20
Grand Mean	3.70	3.88	4.15	4.10

Note. The ratings on the EPPOS ranged from 1 through 5.

Table 4

Mean EPPOS Ratings Over Four Times of Measurement
Subscale: DAILY ROUTINE

Classroom	Fall 1991	Spring 1992	Fall 1992	Spring 1993
School A	3.20	3.40	3.80	4.60
School B	3.00	4.60	4.40	4.60
School C	4.40	4.40	4.80	5.00
School D	2.80	2.40	2.60	3.00
School E	3.40	3.80	3.80	4.00
School F	3.80	4.60	4.40	4.40
Grand Mean	3.43	3.87	3.97	4.27

Note. The ratings on the EPPOS ranged from 1 through 5.

Table 5

Mean EPPOS Ratings Over Four Times of Measurement
Subscale: INTERACTIONS AND INTERVENTIONS WITH CHILDREN

Classroom	Fall 1991	Spring 1992	Fall 1992	Spring 1993
School A	2.57	2.57	3.14	4.14
School B	3.29	4.14	4.00	4.57
School C	4.00	3.86	5.00	5.00
School D	3.00	2.71	3.57	3.00
School E	2.86	3.29	3.43	3.43
School F	3.71	4.71	4.29	4.14
Grand Mean	3.24	3.55	3.90	4.05

Note. The ratings on the EPPOS ranged from 1 through 5.

The data presented in Tables 2-5 indicate that the classrooms generally improved over the two years of the project. The implementation of developmentally appropriate practice occurred in all four domains of practice. The learning environment improved first, followed by improvements in the materials and curriculum, and daily routine, and finally in the quality of adult interactions and interventions with children. The sequence of changes in the classrooms matched a pattern found in other research (Mangione, 1993) and made intuitive sense. The easiest aspect of the educational program to change is the environment. Subtle aspects of classroom practice, in particular, interaction with children, take time for teachers to learn and put into practice.

It is noteworthy that some of the focus classrooms started out with fairly high to high ratings. The classroom in School C was rated at a high level in all four domains of practice at the beginning of the teacher's participation in the TTP. Although this classroom already reflected much of the TTP approach, improvements were observed. The rating of the daily routine moved from 4.40 in the Fall of 1991 to 5.00 in the Spring of 1993. Similarly, the first rating of adult interaction and interventions with children in Classroom C was 4.00, and the last one was 5.00.

Five of the six classrooms exhibited substantial movement toward developmentally appropriate practice over the two years of training. One classroom that started out being rated fairly low received higher ratings in all four areas of practice. The classroom whose ratings did not change during the training was rated in the moderate range at each of the four times of measurement. Findings about specific classrooms will be considered in relation to the assessment of student engagement and the teacher interview data in a later section of this report.

The EPPOS ratings of the focus classrooms established that the TTP tended to have a clear and strong effect on the practices of teachers who were participating in the program. Except for one teacher, teachers who started out with highly appropriate practices made their programs in many respects exemplary, and teachers who started with moderately appropriate practices introduced many highly appropriate practices in their classrooms while they participated in the training. Establishing that the teachers implemented the TTP approach was a key step in the evaluation process. Since the teachers effectively implemented the educational philosophy and practices of the TTP, it was then possible to examine the effects of that educational approach in action.

Children's Engagement in the Classrooms

The measurement of students' engagement in the classroom was based on the proportion or percentage of time the children engaged in various activities. Their classroom behavior was initially categorized into eight categories: Autonomous Activity, Collaborative Activity, Repetitive Activity, Daydreaming, Wandering, Disruptive Activity, With Adult, and Other. The With Adult category included time spent in interaction with an older peer tutor. Percentage of time engaged in each of these activity categories was computed for each child. Since the amount of time children were found to engage in Repetitive Activity, Daydreaming, Wandering, and Disruptive Activity was so low, these four categories were combined into one superordinate category called **Nonconstructive Activity**. The label of nonconstructive activity was selected because all four of the categories in question represented classroom behavior that diverged from active, constructive learning. The "Other" category was also used by observers infrequently and consequently was not included in additional analyses. The analysis thus focused on the percentage of time children engaged in one of four possible activities: Autonomous Constructive Activity, Collaborative Constructive Activity, Constructive Activity with An Adult, and Nonconstructive Activity.

Further analyses indicated that the four dependent variables each had fairly skewed distributions. Square root transformations of the percentage measures resulted in much better approximations of a normal distribution of scores. Subsequent analyses were performed with the transformed measures.

The structure of the analysis of student engagement allowed for comparisons between Year 1 and Year 2 data and between data from the different classrooms. Specifically, a two-way analysis of variance with the factors of Year and Classroom was conducted with each of the dependent measures. The results of the analyses will be reported with a summary for each of the dependent measures.

Autonomous Learning Activity. No significant main effects were found in the analysis of the variable of autonomous learning. There was a trend toward the classrooms differing significantly from each other $F(5,238) = 2.07, p < .07$. In addition, a significant Year x Classroom interaction, $F(5,238) = 4.438, p < .001$, resulted. This significant finding reflects the fact that the average amount of time children engaged in autonomous learning was lower in Year 2 than in Year 1 in one of the classrooms and higher in Year 2 than in Year 1 in one of the other classrooms. In the other four classrooms, the amount of time children spent in autonomous learning remained essentially the same. Table 6 summarizes the results for autonomous learning activity.

Table 6

Mean Levels of Autonomous Learning in Year 1 and Year 2

Classroom	Year 1	Year 2
A	.71	.69
B	.61	.73
C	.72	.70
D	.76	.60
E	.72	.68
F	.76	.75

Note. The scores shown are square root transformations of percentage scores. The higher the score, the higher the level of autonomous learning exhibited on average in a classroom.

Collaborative Learning Activity. In the analysis of collaborative learning a significant main effect for Year, $F(1,238) = 5.190$, $p < .03$, resulted. This main effect indicated that collaborative learning was, on average, higher in Year 2 ($M = .60$) than in Year 1 ($M = .55$). The main effect of Classroom was nonsignificant, $F(5, 238) = 1.445$, $p = .209$. However the interaction effect of School and Year was found to be significant, $F(5,238) = 7.551$, $p < .001$. Inspection of the cell means showed that the mean level of collaborative activity increased between Year 1 and Year 2 in four of the classrooms and decreased in one of the classrooms. Collaborative activity was, on average, the same in one of the classrooms in both years of the evaluation. It should be noted that the classroom whose level of collaborative activity did not change started out with a high level in Year 1. These data appear in Table 7.

Table 7

Mean Levels of Collaborative Learning in Year 1 and Year 2

Classroom	Year 1	Year 2
A	.60	.60
B	.70	.53
C	.53	.59
D	.48	.72
E	.47	.61
F	.54	.59

Note. The scores shown are square root transformations of percentage scores. The higher the score, the higher the level of collaborative learning exhibited on average in a classroom.

Constructive Learning Activity with an Adult. A significant main effect for Classroom, $F(5,238) = 9.902$, $p < .001$, was found. In general, the amount of time children engaged in constructive activity with an adult varied from classroom to classroom. The analysis resulted in a significant main effect for Year, $F(1,238) = 5.922$, $p < .02$, as well. The average level of constructive activity was higher in Year 2 ($M = .26$) than in Year 1 ($M = .22$). This general trend was not consistent across all classrooms, however, as indicated by a significant interaction effect of Classroom and Year, $F(5,238) = 5.618$, $p < .001$. As can be seen in Table 8, an increase in activity with an adult was observed in three of the six classrooms, a decrease in two of them, and one remained unchanged across both years of the evaluation.

Table 8

Mean Levels of Constructive Activity with an Adult in Year 1 and Year 2

Classroom	Year 1	Year 2
A	.15	.28
B	.18	.33
C	.34	.28
D	.21	.21
E	.36	.29
F	.13	.20

Note. The scores shown are square root transformations of percentage scores. The higher the score, the higher the level of constructive activity with an adult exhibited on average in a classroom.

Nonconstructive Activity. The analysis of nonconstructive activity resulted in a significant main effect for Year, $F(1,238) = 72.970$, $p < .001$. The amount of nonconstructive activity decreased from Year 1 ($M = .18$) to Year 2 ($M = .07$). The classrooms differed significantly from each other as well, $F(5,238) = 5.372$, $p < .001$. There was also a significant interaction between Year and Classroom, $F(5,238) = 3.687$, $p < .001$. The interaction effect was due to all of the classrooms decreasing in children's nonconstructive activity from Year 1 to Year 2, with some of the classrooms decreasing more sharply than other classrooms. These data are shown in Table 9.

Table 9

Mean Levels of Nonconstructive Activity

in Year 1 and Year 2

Classroom	Year 1	Year 2
A	.19	.15
B	.20	.04
C	.13	.09
D	.23	.04
E	.20	.11
F	.12	.01

Note. The scores shown are square root transformations of percentage scores. The higher the score, the higher the level of nonconstructive activity exhibited on average in a classroom.

Children's Presented Self-Esteem

The teachers' ratings of children's presented self-esteem were analyzed in a two-way analysis of variance with Year and Classroom as independent factors. The analysis was conducted with the full 24-item scale as the dependent measure. Similar analyses were performed with sets of items drawn from the full scale. The entire set of dependent measures consisted of the full 24-item scale, preference for challenge items, initiative/independence items, social approach/avoidance items, social-emotional expression items, and coping strength items.

In the analysis of the 24-item scale, a significant main effect for Classroom resulted, $F(5,238) = 5.389$, $p < .001$. The differences across classrooms indicated that either some teachers tended to rate children consistently higher than other teachers did or that children in some of the classrooms exhibited a higher level of self-esteem than children in other classrooms. It is noteworthy that the grand mean for the sample ($M = 3.13$) was quite close to the grand mean in other research with the scale. Neither the main effect of Year nor the interaction effect of Year x Classroom was found to be statistically significant. The means for individual classrooms in both years of the evaluation are presented in Table 10.

Table 10

Mean Teacher Ratings of Children's Presented Self-Esteem in Year 1 and Year 2

Classroom	Year 1	Year 2
A	3.06	2.98
B	2.96	2.91
C	3.48	3.40
D	3.23	3.24
E	3.05	3.31
F	2.99	3.13
Grand Mean	3.11	3.16

The analyses of various subsets of items, i.e., preference for challenge items, initiative/independence items, social approach/avoidance items, social-emotional expression items, and coping strength items, did not result in significant differences between Years 1 and 2. In general, although teachers may have differed from each other in the ratings they gave to children in their classrooms, they were consistent in the pattern of ratings they gave from one year to the next.

School Record Data

The mean school attendance data for both years was 93 percent in the fall, and 91 percent in the spring. The implementation of developmentally appropriate practice in the classrooms thus appeared to have no effect on children's attendance in school. The attempt to gather standardized test data revealed that the schools' testing practices during the early primary years are in a state of flux. In only one school was the same type of test given to children in both years of the evaluation, and in that school the inconsistency of the format for recording test scores from one year to the next prevented analysis of those data.

Students' Portfolios

The study of portfolios indicated that the teachers did not have standard procedures for documenting children's work. Teachers tended to place different types of information in the portfolios at different points in time. As a result, data from the portfolios could not be analyzed systematically. Examination of the portfolios made clear that such an analysis would depend on an approach to portfolios specifically designed to track children's educational progress.

Teacher Interviews

School A

At the beginning of her participation in the TTP, School A's teacher emphasized the importance of active learning in children. In talking about her role as a teacher, she focused on what she used to do, i.e., "to try to stuff content in children's heads." She placed priority on children gaining skills for future learning, and secondarily mentioned the importance of supporting the

development of self confidence, self direction, and self motivation in children. In contrast, at the end of the two years of training, this teacher was able to articulate subtle aspects of her role in the classroom. She reported seeing herself as a facilitator of children's learning, a problem solver, a role model, an observer and interpreter, a listener, and a supporter. She underscored the need to ask questions that spark children's critical thinking. Children being independent, self directed, and self confident learners topped her list of educational objectives. She stressed children's curiosity and ability to ask questions as being key in her educational approach. Still on her list were the mastery of skills and concepts.

At the beginning of the project, when asked what she did to make learning meaningful for children, Teacher A mentioned using journals and language experience stories with children. In response to the same question at the end of training, she talked about making sure that materials were at the children's level. She explained what she meant by level by saying that the materials should be appropriately challenging, age appropriate, reflective of the children's cultural experience, and enjoyable. Children's responses to materials are now carefully considered in Classroom A. Children are also asked to bring materials in for science activities.

At the end of the project, Teacher A responded to questions about changes she had specifically made as a result of participating in the TTP. She mentioned providing more hands on materials, giving children more control over the learning environment, and being more accepting of children's various ability levels. Children are now given larger blocks of time for activity and have the opportunity to become highly involved in activities. Learning activities integrate various content areas, and science has become more spontaneous and connected to children's experiences.

Teacher A's participation in the project did not alter her retention practices. She reported that her principal had already established a policy against retention. In Year 1 of the evaluation, Teacher A indicated that she retained no children, and in Year 2 one child. The retention in Year 2 was described as due to the social-emotional development of the child who was retained. Teacher A did state that the training experience influenced her understanding of the retention issue. She now sees that children differ tremendously from each other in their pace of learning. In her view, even though children differ in their learning pace, they are all capable of acquiring knowledge and making educational progress.

Teacher A learned about the TTP from kindergarten teachers in another school at which she used to teach. She has informed other teachers about the project through informal and formal means. She has talked with colleagues about her educational approach, and has encouraged other

teachers to visit her classroom. On a more formal level, Teacher A has conducted a workshop for classroom aides, and has given a mentorship presentation in her school district.

It is noteworthy that Classroom A started out with fairly high ratings on the EPPOS, and that EPPOS ratings increased through the course of training. The areas in which Teacher A claimed to make changes corresponded to those in which the most change was observed. The children's engagement in the classroom was already high in Year 1 of the project and remained at similarly high levels in Year 2. The only change in children's engagement that was found was a higher level of constructive activity with an adult in Year 2.

School B

Teacher B began the training with a general philosophy that emphasized children's active learning. She described herself as a facilitator of learning, someone who challenges and awakens the thinking of children. She indicated that part of her role included guiding the learning of skills and concepts. Children were seen as learning from hands on experiences, from watching, from imitating the actions of others, and from interacting with others. At the end of the training, Teacher B used more or less similar words to characterize her educational philosophy. The point she added to her philosophy was the inappropriateness of telling children answers to problems before they have a chance to discover them on their own.

The educational objectives cited by Teacher B in the first interview referred to specific concept and skill learning, e.g., "to understand numbers and operations," as well as to social emotional concerns, e.g., "to get along with each other," "to respect other opinions and values," and "to enjoy learning and writing." After two years of training, Teacher B's objectives shifted to an emphasis on children "taking risks in writing," "thinking about and challenging ideas," and "questioning." Still concerned about concept learning, Teacher B now encourages children to take chances and challenge concepts as they learn about them.

Prior to participating in the TTP, Teacher B planned her educational program three to four weeks ahead of time. The curriculum was organized in thematic units. She also reported using a basal reader, though she was not happy with it. After the training, Teacher B planned around small group activities that offered every child a chance to experience success. She stated that she emphasizes cooperation among the children, with a lot of dialogue. She tries to create activities that will allow for discovery and that will interest the children. To make learning meaningful for children, Teacher B now incorporates their suggestions into the classroom activities.

Teacher B expressed that she has a lot to learn about appropriate assessment practices. She is concerned that anecdotal records take too much time to use effectively. She plans to standardize what is collected in the students' portfolios.

When asked specifically about changes she had made as a result of the training, Teacher B said by making the environment print rich and defining areas, by emphasizing small group time as part of the daily routine, and by eliminating ditto work. According to Teacher B, her educational program now focuses on cooperation and discovery, and meeting individual needs.

The retention practices in School B changed five years ago when a new administrator arrived. Prior to the administrative change, Teacher B tended to retain one or two children a year, though one year she retained about ten out of thirty-two children. No children were retained in Classroom B in either Year 1 or Year 2 of the evaluation. Teacher B indicated that the training experience influenced her understanding of retention. She now sees her work as supporting children's development wherever they happen to be along the developmental continuum.

Teacher B found out about the TTP through observing a classroom. Her school district has sent a fairly large number of teachers to participate in the training.

Classroom B was rated higher on all four subscales of the EPPOS during the course of training. The ratings reflected the types of changes Teacher B talked about implementing in her classroom. The observation of children's engagement in Classroom B did not correspond entirely with Teacher B's interview comments, however. Over time there was an increase in autonomous learning and constructive learning with an adult in this classroom, and a decrease in children's collaborative learning activity. Although Teacher B spoke about the importance of cooperative learning, her classroom was the only one in which collaborative learning decreased between Year 1 and Year 2.

School C

Teacher C started out the training seeing herself as a facilitator and coach of learning. She maintained that view of herself throughout the training experience. At the beginning of training Teacher C said that children learn by being actively involved with things. She added that children need to have an emotional connection to things. In her view children should not be filled up with information, but rather should learn on how to access it. At the close of training Teacher C repeated her emphasis on children's active learning. In addition, she talked about the importance of children making discoveries on their own and having opportunities for being creative. Teacher

C's comments seemed to reflect a deeper understanding of active learning than she expressed at the beginning of training.

When asked about her objectives for children in the first interview, Teacher C emphasized that they should enjoy learning and continue to be curious about things. She stated the she wanted to nurture them as "emerging readers, problem solvers, and thinkers" and support their self-esteem. At the end of participating in the TTP, Teacher C offered a much more extensive list of objectives for children than she did in the first interview. She talked about the need to motivate children who are not already self-motivated. She indicated that she aimed to help children become flexible, critical thinkers, and learn to think divergently. In her view, children needed to become capable of self assessment, and thereby learn from their mistakes.

In both interviews, Teacher C stated that she first takes a global approach to planning for children's learning, and then focuses on the needs of individual children. She also immerses children in whole language experiences and provides an ample supply of math manipulatives. Teacher C's notions about planning were more expansive at the end of training. She now tries to design learning activities that appropriately challenge children, matching their level of understanding and then "stretching them." An added nuance to this approach is that she builds in success for children as she challenges them. Both before and after training, Teacher C described multiple strategies for making learning experiences meaningful for children.

In response to the question on assessing students' learning, Teacher C emphasized observation and other "informal" methods. At the onset of her training experience, Teacher C stated that she did not use tests or mark papers. Her approach to assessment is based on global impressions of children rather specific indicators. Teacher C's general philosophy of assessment appeared to be supported by the TTP. Before beginning training Teacher C was opposed to retaining students. She did not retain any children in either the 1991-92 or the 1992-93 school years.

Teacher C heard about the training from colleagues in her school who had previously participated in the training. Since starting the training, she has conducted in-service workshops in her school district about the TTP approach and has passed on information to principals in her district. In addition, Teacher C has informally presented information on the approach to parents.

The benefits of the training described by Teacher C were that she learned to fine tune her teaching. Her classroom was child-centered to begin with, and is more so now. Above all, as a result of participating in the TTP, she feels empowered to do what she believed in all along.

Classroom C's ratings on the EPPOS reflected Teacher C's general sense of what the training experience meant to her. At the first time of measurement, Classroom C received the highest ratings of the six focus classrooms. Teacher C was already providing a developmentally appropriate setting. The positive changes observed in this classroom over the course of the two-year represented refinements of a developmentally appropriate program. The children's level of engagement was essentially the same in both years of the evaluation.

School D

Teacher D described her role in the classroom in the same way in both the preliminary interview and the interview at the close of the program. She talked about preparing lessons, implementing plans, making sure children master skills, introducing lessons that engage children's senses, teaching positive social behavior, making lessons interesting and child-centered, and preparing children for the next stages of learning. She indicated that children learn both from active doing and listening. Children, in her view, also need a variety of sensory experiences to learn. Teacher D's stated objectives for the children were to prepare children for the future, help them enjoy learning, and foster reading readiness and the ability to listen.

In response to a question about planning children's learning experiences, Teacher D mentioned grade appropriate learning during the first interview. Otherwise her responses in the first interview were echoed in her interview responses at the end of training. She stated that she planned units and checked for coverage of content. The units are based on integrated subject themes. Both before and after the training, Teacher D described several strategies she used to make learning meaningful for students, including incorporating what they bring into class.

For assessment, Teacher D said she uses unit tests. Her classroom observations are conducted with the aid of a checklist. Teacher D did not feel that her participation in the TTP affected her thinking about retention. She indicated that she came into the training with a view of retention that corresponded to the one put forward by the project. No children in Classroom D were retained in either the 1991-92 or the 1992-93 school year.

When asked about changes she made as a result of participating in the training, Teacher D stated that she arranged the room into areas, labeled the areas, introduced more hands on, child-centered activities, and balanced whole group activities with small group time. She emphasized children learning cooperatively in pairs as a major change in her classroom routine. She also reported that she reduced the number of worksheets, now using them primarily for reinforcing active learning and for assessing children's learning.

At the end of the second interview, Teacher D commented that the TTP is wonderful, but difficult to implement in reality. With large numbers of children and without a teacher's aide or parent volunteers, managing small group time is particularly difficult in her view. She recommended that the TTP articulate the conditions necessary for full implementation of the approach before teachers begin the training.

The EPPOS ratings of Classroom D reflected a moderately developmentally appropriate educational program at all four times of measurement. Some practices that Teacher D maintained throughout the training experience, for example, the use of worksheets, automatically led to lower ratings on the EPPOS. The only observed change was a slight improvement in the environment. The somewhat higher rating on the Learning Environment subscale reflected the division of the classroom into learning areas and the labeling of areas. The children's engagement in Classroom D did change in several ways between Year 1 and Year 2. Children engaged in less autonomous learning and much more collaborative learning. This finding was compatible with Teacher D's new emphasis on children learning in pairs. In addition, the amount of nonconstructive activity declined dramatically. The small changes Teacher D introduced in her classroom appeared to increase the focus and engagement of the children.

School E

Teacher E's view of her role in the classroom remained unchanged through the two years of training. At both interviews she referred to herself as a facilitator or guide for children as they learned. She also emphasized the importance of an enriched environment. Teacher E described how children learn quite differently at the end of the training experience as compared to its beginning. In the first interview she stated that children learn by being exposed to various materials and experiences, and by listening, watching, and doing. In contrast, at the end of the two years of training she stressed that children learn by doing, by being involved in learning activities rather than just sitting and listening. In response to the question about her educational objectives for children, Teacher E offered a fairly long list of objectives in both interviews. Both lists included objectives such as to help children to become critical thinkers, to acquire knowledge and skills, and to get along with one another.

When asked about planning her educational program, Teacher E responded by saying that she works with themes in an integrated way. Her stated approach to planning did not change over the two years. To make the learning meaningful, the main strategy referred to in both interviews was to make a variety of things available to children that they could explore and manipulate.

To assess children's learning, Teacher E reported using a combination of journals and workbooks at the beginning of the training. At the end of training, her assessment procedures were based solely on observational records. As a result of participating in the TTP, Teacher E believes that retention is not helpful to children. Her retention practices were not affected by the training. In the 1991-92 and 1992-93 school years she did not retain any children.

Teacher E became interested in the training project through a meeting about it at her school. Her main avenue for sharing information about the project has been in conversations with a first grade teacher in her school. Teacher E has exchanged ideas and materials with this teacher.

The specific practices Teacher E introduced in her classroom as a result of participating in the training were arranging the room into activity areas and labeling areas and materials in the room. She is also more conscious of how she handles the children's work samples and portfolios.

The ratings of Classroom F on the Learning Environment subscale of the EPPOS increased by two points in the first year. After the big improvement observed in the first year, the ratings for this subscale remained in the moderately to highly appropriate range. On the other three subscales of the EPPOS moderately positive changes in classroom practices were observed over the two years of training. At the end of her participation in the training, Teacher E's classroom practices were rated as somewhat to fully appropriate. Changes in practice went hand in hand with changes in the children's activity in the classroom. Children in classroom E were found to be more highly engaged in collaborative learning activities in Teacher E's second year of training.

School F

Teacher F went into the training seeing herself as a facilitator of children's learning. At the completion of training, Teacher F talked about being a facilitator of learning with an emphasis on individualizing each child's experience. She also mentioned that setting up the environment was a key aspect of the facilitation role. In both interviews Teacher F stated that children learn by doing and by having a variety of experiences. She commented in the second interview that communication between adults and children is important in the learning process. Teacher F's educational objectives for children were the same at the beginning and end of training. She aims to have children enjoy school, learn about themselves, become confident, and form friendships.

At the beginning of training Teacher F's main strategy for educational planning was to adapt to the children's capabilities and follow their interests. At the end of training, she had incorporated many concepts from the TTP to plan for children's learning. She referred to, for example, key

experiences for children, making sure the environment offers varied opportunities for children's exploration and discovery, and balancing small group time with direct instruction. Teacher F started out the training with a lot of ideas on how to make learning meaningful to children. At the end of the training experience she offered the same ideas in the interview.

To assess children, Teacher F reported using a variety of strategies at both the beginning and the end of participating in the TTP. Among the strategies she cited were observation, anecdotal records, and portfolios. Teacher F indicated that the training experience did not influence her view of retention. She started out the training thinking that retention was inappropriate. No children in Classroom F were retained in either the 1991-92 or 1992-93 school years.

Teacher F heard about the TTP from colleagues in her school. Her principal asked her to participate in the project. Since beginning the training, Teacher F has conducted workshops on the TTP approach for other teachers in her school district.

Changes Teacher F made as a result of training were reducing the use of pre-made materials, defining areas in the classrooms more clearly, and introducing a daily routine. She has also intensified her focus on the scientific process.

The EPPOS ratings of Classroom F improved during the course of training in all four areas of practice. The children's level of autonomous and collaborative engagement in this classroom was observed to be high in the first year of training and remained at that level in the second year. In Year 2, there was an increase in children's constructive engagement with an adult and a decrease in the amount of nonconstructive activity. In general, before beginning training, Teacher F provided a developmentally effective program and strengthened it through the course of training.

Summary of Teacher Interviews

Four of the six teachers in this study possessed a general understanding of developmentally appropriate practice prior to participating in the TTP. Many of their classroom practices reflected their understanding, though some of these teachers used inappropriate educational strategies, for example, worksheets. The two teachers who started out the training with an educational approach that diverged from developmentally appropriate practice responded to the project differently. One of them embraced the project's approach and succeeded in implementing many of its elements. In contrast, the other teacher questioned the practicality of the approach and implemented few general changes in her classroom. It is noteworthy that the general changes

made by this teacher were associated with positive changes in children's engagement in the classroom.

Teachers who began the training with a good grasp of developmentally appropriate practice appeared to deepen their understanding of children's development and learning, and strengthen their educational program over the two years of training. In the interview at the close of training, all of the teachers talked about changes they made in their classroom environment and daily routine. Teachers with developmentally appropriate classrooms made subtle improvements, and those with somewhat appropriate classrooms made major improvements. Teachers who started out with a good number of inappropriate practices still had room to improve at the end of training.

The teachers' retention practices did not change through the course of the training. From the beginning, they all believed retaining children was inappropriate, and, as a rule, avoided doing so. Nevertheless, most of the teachers did report that they gained a better understanding of the impact of retention on children. Their beliefs about retention appeared to be clarified by the developmental perspective provided by the training.

The teachers heard about the training through school administrators and colleagues. In several cases, other teachers from the focus teachers' school or school district had participated in the training. The focus teachers who had exhibited the deepest understanding of the TTP approach and the greatest success at implementing it tended to offer workshops on the approach.

The interview data were generally corroborated by the EPPOS ratings and the findings on student engagement. The most prominent changes in the EPPOS ratings over time were in the domains of the learning environment and the daily routine. In addition, children in classrooms whose teachers started the training with a developmentally appropriate program and whose interview responses reflected a solid understanding of a developmental approach were found to be highly engaged in both years of the study. Children in classrooms whose educational programs changed from being somewhat appropriate to more appropriate were observed to be more highly engaged in constructive learning in the second year than in the first year of the evaluation .

Interviews of Administrators

School A

Administrator A first heard about the TTP from a teacher in her district.[1] At that time she considered the TTP approach to be very relevant because the school had already been moving toward developmentally appropriate practice for several years. In the final interview she indicated that the information on parent education was particularly useful. She would have liked to have more involvement in the training than she did. She stated that administrators need more intensive training in developmentally appropriate practice. Administrator A anticipates that the trend toward active learning will go beyond the K-1 program in her school. She described the TTP's emphasis on active learning as its greatest strength.

Administrator A identified the curriculum as the focal point of staff development. In her opinion, barriers to staff development include teachers' resistance to some educational approaches and the lack of time. Administrator A stated that long range staff development enables everyone to participate and allows for continuous input. In particular, with ongoing staff development one does not lose start up time. In contrast, short term staff development is good for covering special topics, e.g., conflict management, but tends to be uneven in its effectiveness. The staff in School A determines the direction of staff development.

Administrator A reported that there has been a positive response to the TTP. It has increased collegiality. She stated that she would like to send a second teacher to the training. Administrator A has shared information about the TTP at school district staff meetings.

School B

The administrator interviews for School B were conducted with the school's principal. She first heard about the TTP through the California Kindergarten Association. She had also learned about the High/Scope curriculum from a nearby school district. In the first interview in the spring of 1992, Administrator B stated that the TTP approach was extremely relevant to her school's early elementary school program. A year later she characterized the TTP as relevant, while underscoring that her school is using a general approach to developmentally appropriate practice, not just the TTP's model. Her school district plans to have teachers from one school participate

[1] Most of the administrators and colleagues of the focus teachers were female. In order to avoid identification of particular people and to simplify the presentation, feminine pronouns are used to refer to everyone who was interviewed.

in the training and eventually phase in district wide participation. She considers the first teachers to go through the training as mentors. The other teachers in the school will need time to absorb the approach from the mentors.

Overall, Administrator B assessed the training as excellent. She believes that information from the training will support her school district's effort to implement developmentally appropriate practice at the early elementary level.

In the spring of 1992, Administrator B stated that she would like to receive information from the TTP on how to teach phonics within a whole language framework. In the 1993 interview, she reported wanting information on cooperative learning, and on parent involvement and assessment. She also indicated that the TTP approach could be better connected with curriculum content and could better address children's academic skill development.

Administrator B foresees that future staff development activities in her school district will focus on the curriculum. Some of the barriers to staff development and teacher change, in her view, are the beliefs and values of staff, inconsistent high level administrative support, and inadequate time for in-service training. The advantage of long range staff development is that it supports major change in teachers. However, staff turnover makes it difficult to gain the benefits of long range efforts. Short range staff development's main drawback is that it is piecemeal. On the positive side, it does cost less.

Administrator B stated that planning for staff development involves coordination between the school's teachers and administrators. She added that the school district mandates some of the staff development activities they organize. She sees teacher mentors as having an active role in any future staff development they conduct.

Administrator B concluded the first interview by saying that the teachers participating in the TTP have a sense of achievement. They have made changes in their classrooms and can see the positive effects of those changes.

School C

The principal of School C indicated that the TTP approach was consistent with efforts that were already underway at her school. Before beginning training, Teacher C had participated in making the early primary curriculum in the school developmentally

appropriate. The benefit of the TTP training, in Administrator C's view, is that Teacher C now has a clear and focused approach to developmentally appropriate practice.

In the spring of 1992, Administrator C stated that she did not need additional information on developmentally appropriate practice. She expressed that she was well informed and believed other administrators had to catch up with her. A year later Administrator C said that she needs to know more about teacher change. She finds it difficult to ask a teacher to change who has been successful and who does not want to change. Administrator C's experience has been that elementary school teachers are either for developmentally appropriate practice or against it. She indicated that it would be helpful to be able to focus on upgrading teachers' skills while at the same time looking at alternative methods to teaching rather than trying to impose one approach.

Administrator C sees the direction of staff development being based on the school district's adoption of textbooks, State Department of Education standards, and input from parent site councils. A barrier to staff development is the resistance of some teachers to change. Among the advantages of long range staff development cited by Administrator C is that teams of teachers can build and groups of teachers can share the experience of implementing changes in practice. The drawbacks to long range staff development include staff turnover, the difficulty of keeping long range goals in focus, and the need to introduce small changes. In contrast, short range staff development strategies avoid the problem of staff turnover and give the school a chance to concentrate on small, attainable goals. However, short range staff development usually lacks coherence and leads people to lose sight of long range goals.

Administrator C believes that participating in the TTP has been valuable for teachers. Above all, the TTP has validated the approach they have already been using. Administrator C has questions about whether the TTP can effectively reach all teachers, especially those who are resistant to change.

Administrator C has attempted to spread information about developmentally appropriate practice through writing articles and pamphlets for the public. She indicated that it is difficult to spread the word beyond the school. Developmentally appropriate practice seems to make most sense to teachers who are trying to implement it in classrooms.

School D

Administrator D considers the TTP approach relevant to her school's early elementary program. In the spring of 1992 she stated that developmentally appropriate practice meets the needs of children and fits with the State Department of Education's guidelines. At that time she indicated that she wanted all of her primary teachers to participate in the training. One year later Administrator D described the TTP as broadening the scope of their kindergarten program. She went on to say that the TTP approach is just one part of their program.

In response to a question about what else she would like to see offered by the TTP, Administrator D replied that the curriculum is not formal enough. She stated that the TTP approach should address the needs of all students, even those with learning difficulties. In the second interview Administrator D said that the training should provide a better understanding of the various ways children learn. Nevertheless, Administrator D reported that Teacher D has positively influenced other teachers in the school by sharing information she has received from the training.

Administrator D said that staff development revolves around the curriculum. Barriers to staff development, in her view, include the lack of time and energy, the school district's desire to go in several directions at once, and limited funds. The advantage of long range staff development is that it is focused. Yet with a focused strategy one may lose flexibility and not be able to cover a wide range of topics. Administrator D described short range staff development as an appropriate and effective strategy as long as individual teachers do not have the responsibility for spreading information to other teachers. Priorities for staff development at School D are determined by surveying the staff and including all teachers and administrators in the planning process.

In the second interview, Administrator D concluded that the TTP is effective because it is intensive and spread out over time. She would add to the TTP approach information on how to provide children with structure who need it. Administrator D has shown the TTP's video at school district planning meetings and presented information about the training to teachers.

School E

Teacher E's participation in the TTP had been arranged prior to Administrator E's arrival at the school. Consequently, Administrator E first learned about the TTP from the

participating teacher. In the spring of 1992, Administrator E stated that the TTP approach was relevant because her school program does not adhere to a "lock step" approach to education. One year later she indicated that the TTP reaffirmed her approach and deepened her understanding of developmentally appropriate practice. The biggest effect of the training has been in Teacher E's classroom. Administrator E has also observed that the first grade teacher has been indirectly influenced. Specifically, the first grade teacher has introduced hands on materials in her classroom that she learned about from the kindergarten teacher who had participated in the training.

In spring, 1992, Administrator E said she would like to see the TTP expanded to the second grade. In spring, 1993, Administrator E stated that the TTP approach should provide specific information on how to integrate content with structure. She would like to see the follow-up site visits continue after the second year of training. In addition, she indicated that the upper grade teachers in her school would benefit from similar training. Overall, she found the TTP to offer teachers depth and a good level of support. She cited the length of the training and the extension to administrators and teams as strengths of the TTP approach.

Staff development at School E usually revolves around the curriculum. The biggest barrier to staff development in Administrator E's opinion are the lack of funds and the difficulty in arranging for release time for teachers. Administrator E stated that long range staff development offers time for follow through and implementation, but does require more time and money than short range staff development. The planning of staff development at School E was described as informal, with most of the topics coming from the teachers. Other teachers in School E were curious about the TTP at first and later were generally interested.

Administrator E has shared information about the TTP at school staff meetings and in conversations with other principals. She also passed out flyers on the TTP to teachers in her school district.

School F

The administrator from School F who was interviewed was the K-1 Coordinator. This person had first heard about the TTP directly from Early Childhood Resources. In the interview she stated that the training was relevant because of the work in California of the School Readiness Task Force and her school district's decision to phase out transition classes at the kindergarten level.

She has arranged for two teachers to participate in the training project and has set up three in-service training sessions on developmentally appropriate practice.

As a result of the training, Administrator F reported that there is a lot more coordination between grade levels in the K-2 program. In addition, the teachers who have participated in the TTP will share their expertise with other teachers in the school district.

At both interviews, spring, 1992, and spring, 1993, this administrator expressed that she needs additional information on developmentally appropriate assessment. During the second interview, she specifically stated that she wants to know when to start interventions with children who do not meet benchmarks established for certain age levels or grade levels. A concern she voiced in the first interview was not knowing how to work with teachers who do not want to change their practices.

In talking about her school's staff development objectives Administrator F made reference to school district wide objectives in the first interview. A year later she emphasized the need to continue strengthening developmentally appropriate practice in the kindergarten through second grade classrooms and using the California State Department of Education's *It's Elementary* document to guide staff development for the upper elementary grades.

When asked about the advantages and disadvantages of long range staff development, Administrator F said that it gives focus to the process. The disadvantages of long range staff development, in her view, were that it takes too long to plan, it is not action oriented enough, and it often lacks benchmarks or indicators of change during the process. In contrast, short range staff development can often lead to quick change, but it lacks follow up, evaluation, and consultation. Administrator F sees the planning of staff development as a collaborative process with the school district in which the individual school defines its objectives.

Administrator F indicated that the response of her school's teachers to the TTP has been excellent. In the first interview, she stated that interest in the training is high among teachers who had not yet had an opportunity to participate.

Summary of Administrator Interviews

The school administrators who were interviewed for the evaluation were generally positive about the TTP. Most of them expressed that the TTP approach fit with the educational

programs at their schools, validated what they were already doing, and offered to teachers and administrators an opportunity to deepen their understanding of developmentally appropriate practice. Most of them also expressed that the TTP approach represented only part of their total effort to implement developmentally appropriate practice. They indicated that the TTP could be strengthened by integrating the approach with content and academic skill development, providing in depth information on assessing children's performance, and focusing on how to work with children who have difficulty learning. In particular, two administrators wanted to know how to determine whether one should intervene with a child who may be experiencing difficulty learning.

In most cases staff development activities at the focus schools center on the curriculum. The teachers at the schools participate in identifying training topics and planning training activities. The two most frequently mentioned barriers to staff development were cost and time. Most of the administrators indicated that long range staff development most effectively supports teacher change, but it can be too costly and limit program flexibility. In contrast, short term staff development can meet an immediate need. Such an approach lacks coherence, however, and is uneven in its effectiveness.

Generally speaking, other teachers at the focus schools have responded positively to the TTP approach. Two administrators specifically mentioned that the focus teachers' colleagues have been influenced by the teacher participating in the training. Some administrators pointed out that there are some teachers who do not want to change their practices. These teachers are opposed to developmentally appropriate practice as well. In the interview, one administrator wondered whether the TTP could find a way to work with teachers who are not open to developmentally appropriate practice.

The school administrators have taken numerous steps to spread the word about the TTP. The main vehicles for doing so are meetings and conversations. Several of the administrators plan to support the participation of additional teachers from their school and school district to participate in the TTP. One administrator mentioned extending the TTP approach to the second grade, and another to the upper elementary grade levels. Most of the administrators appeared to consider the TTP as one of several staff development strategies that aids their efforts to emphasize active learning in their elementary school programs.

Interviews of Colleagues

School A

Only one of Teacher A's colleagues was interviewed. This colleague indicated that the primary grades program staff has been meeting monthly to discuss developmentally appropriate practice. These meetings had been occurring in conjunction with Teacher A's participation in the training. The colleague also stated that School A's principal has been supportive of the implementation of developmentally appropriate practice. She indicated that focus Teacher A has been a good person with whom to discuss ideas. The colleague explained that Teacher A's participation in the TTP has encouraged the rest of the primary grade staff to find out more about developmentally appropriate practice. Teacher A's colleague concluded the interview by saying she needs additional information about implementing an active learning approach and fine tuning her classroom practices.

School B

Two of Teacher B's colleagues were interviewed, a primary grade teacher and a fourth grade teacher. The primary grade teacher stated that she learned about the TTP through attending a school district workshop and through informal discussions with Teacher B. The fourth grade teacher had heard about the training only from Teacher B. The primary grade teacher has implemented developmentally appropriate practices in her classroom, consulting with Teacher B along the way. This colleague indicated that a developmentally appropriate approach allows her to adapt to the needs of children who have a wide range of needs. The fourth grade teacher has not participated in any of the workshops for primary grade teachers in her school, but she does try to use a hands on approach to learning in her classroom. She stated that all the primary grades are implementing developmentally appropriate practice, and some of the information is filtering up to the upper grade levels. When asked about what else they would like to find out about developmentally appropriate practice, the primary grade teacher responded by saying more information on evaluation and assessment, and the fourth grade teacher by saying general information.

School C

Two of Teacher C's colleagues were interviewed for the evaluation. Both learned about the TTP from Teacher C and the school's principal. One of these colleagues attended a workshop put on by Teacher C, and the other did not. The one who did said the information presented in the workshop helped her set up learning centers in her classroom. The colleague who did not attend the workshop indicated that Teacher C's files are open to her if she needs information about developmentally appropriate practice. One of the colleagues noted that other teachers in School

C are now participating in the TTP, and that the principal is supportive of the TTP approach. One colleague stated that she wants to know more about developmentally appropriate practice, and the other stated that she is working on implementing the guidelines from the State Department of Education.

School D

Two of Teacher D's colleagues were interviewed. They both learned about the TTP approach through in-service sessions conducted by Teacher D. Both colleagues indicated that the information from Teacher D is relevant to their classrooms. One of the colleagues elaborated by saying that School D is moving toward a student-centered approach to learning, with an emphasis on hands on materials and child choice. This teacher added that she is still concerned about preparing students for middle school, which is not at all student-centered. The other colleague stated that the TTP approach is one of many factors influencing change in their school. When asked what else they desire to learn about the TTP approach, one colleague responded by saying specific guidelines on what to do with a child at a particular developmental age, and the other by saying more about the process of plan-do-review.

School E

Due to scheduling difficulties no interviews of Teacher E's colleagues were conducted.

School F

Two of Teacher F's colleagues were interviewed. Both of these colleagues learned about the TTP from Teacher F. They found the information from Teacher F to be useful, because their school is moving in the direction of developmentally appropriate practice. Both colleagues have tried out practices introduced to them by Teacher F, for example, how to extend block play and how to take notes when observing and assessing children's learning. When asked what else they would like to learn from the TTP approach, one colleague responded by saying assessing children's learning, fostering the development of social skills, and identifying movement games for children. The other colleague responded by saying more about collaboration between grade levels and more mentoring on each of the curriculum content areas.

Summary of the Colleague Interviews

The colleague interviews indicated that the teachers who had participated in the TTP became information sources about developmentally appropriate practice for their colleagues. These

colleagues tended to be open to the information. Most of them had implemented ideas and practices they learned from the focus teachers. In the interviews, several of the colleagues pointed out that their schools were moving toward a more student-centered educational approach and that the TTP fit into that trend. They tended to describe the TTP as one of several activities that were supporting the implementation of developmentally appropriate practice in their schools. The colleagues cited a number of areas about which they desire to learn including assessment and evaluation, children's social skills, movement activities for children, collaboration between grade levels, active learning, curriculum content within a developmental approach, and developmental milestones or benchmarks.

DISCUSSION OF FINDINGS

The various data collected to evaluate the TTP indicated that teachers' participation in the training influenced their classroom practices, children's engagement in the classrooms, and the participating teachers' school administrators and colleagues. The most far reaching effects were on the focus teachers' classrooms. Five of the six study classrooms clearly became more developmentally appropriate over the course of the two years of training. Small changes in the educational program of the sixth teacher were found as well. The changes in practice occurred in a predictable pattern. The environment and learning materials and activities changed before the daily routine and the nature of adult interactions and interventions with children. Classrooms that were already developmentally appropriate moved toward becoming exemplary, and classrooms that were somewhat developmentally appropriate became more developmentally appropriate.

In addition to the changes that were observed in the classrooms, the focus teachers' interview responses suggested that the training had helped them attain a deeper understanding of developmentally appropriate practice. In the interview at the beginning of training the focus teachers were able to articulate a general understanding of a child-centered approach to learning. At the end of training, the teachers' interview responses reflected an emphasis on subtle aspects of developmentally appropriate practice. The teachers who started out with a fairly sophisticated understanding became highly sophisticated, and those with a somewhat sophisticated understanding became fairly sophisticated. There was a strong correspondence between observational ratings of the teachers' classroom practices and their interview responses on developmentally appropriate practice.

As the classrooms became increasingly child-centered the children became more engaged in active learning. A modest increase in the children's engagement in collaborative learning and a modest decrease in children's nonconstructive activity were observed between the first and second years of training. The amount of time that children engaged in autonomous learning was already high in the first year of training and remained similarly high in the second year. The picture of the children that emerged from the classroom observations was that they were generally focused on learning and able to learn collaboratively as well as autonomously.

The increase in children's engagement in collaborative learning may be related to the emphasis on small group activities within the TTP approach. Many experts in the field have argued that peer learning is an important part of children's educational experience. Fostering children's learning through collaborative activity is challenging for teachers, and the TTP approach appeared to facilitate the focus teachers' efforts to do so. At the same time, the strategies that the focus

teachers implemented while in training generally reduced children's time spent in nonconstructive activity.

It is noteworthy that four of the six teachers began the training with classrooms whose observational ratings were in the developmentally appropriate range of the scale. In addition, all of the teachers came from schools where an effort to move toward developmentally appropriate practice had been initiated. The focus teachers appeared to be highly motivated to continue learning about child-centered learning and implement practices to support it. In the first year of training, children in the focus teachers' classrooms were already exhibiting a high level of engagement in autonomous learning. This finding reflected the fact that most of the classrooms provided the children with ample opportunities to participate in active learning activities. Thus, there was little room for an increase in the children's level of engagement in the teachers' second year of training. Even so, the children's constructive engagement was significantly higher in the second year, but the amount it increased was modest. Children in the second year spent about five percent more time constructively engaged than children in the first year. In reviewing these results, one is left with the impression that the training helped most of the teachers fine tune their educational approach and that the children responded positively to this fine tuning.

How would the children's level of engagement in the focus classrooms compare to that of children in traditional teacher-centered classrooms? The findings in this evaluation are only suggestive of an answer to this question. The positive relationship found between the implementation of developmentally appropriate practice and children's engagement suggests that major changes in practice may go hand in hand with an increase in children's active engagement in learning. The only way to assess definitively whether a strong relationship exists between developmentally appropriate practice and children's engagement would be a comparative study of children in child-centered versus in teacher-centered classrooms.

A critical question for educators is whether children's engagement in classroom learning activities is related to their long range school success. We attempted to gather traditional measures of achievement from school record data, but it was impossible to do so. Testing practices at the early elementary school level are in a state of flux. None of the focus schools consistently administered standardized assessments of students. Comparing children's level of presented self-esteem and school attendance between years one and two did not shed light on the possible influence of children's engagement in learning either. Overall, the attempt to identify short term effects of an educational approach on student achievement may be counterproductive. Because children develop at different rates, some believe that short-term indicators of academic skill development are unlikely to predict children's long range success in school (Biemiller, 1993).

Perhaps the best measure of the long term impact of developmentally appropriate practice would be a performance based assessment in the upper elementary school grades. The California Department of Education has made substantial progress in developing authentic measures of children's competence and learning. The California Learning Assessment System (CLAS) provides information on, among other things, children's ability to solve problems and engage in higher order thinking. In the long run, children's active participation in developmentally appropriate settings should enable them to perform well on tasks such as those that make up the CLAS.

A key issue in the longitudinal study of the effects of children's participation in developmentally appropriate primary classrooms would be the degree of continuity between classroom settings at different grade levels. Children whose teachers have implemented the TTP approach may be in a child-centered classroom for only one year. Unless children participate in developmentally appropriate classrooms year after year, the effects of discontinuity in educational experiences would interfere with a clear assessment of the potential long range benefits of active learning in kindergarten or first grade. It may be possible to evaluate longitudinal effects of the TTP approach by focusing on those schools that have sent several teachers to participate in the training. From what we have learned in the present evaluation, we would hypothesize that those children whose classrooms consistently engage them in active learning during the primary school years would, in the upper elementary school grades, perform well on problem solving and other cognitively challenging tasks.

The interviews of the focus teachers' school administrators and colleagues indicated that the schools are trying to offer children developmentally appropriate classroom experiences throughout the primary grade school years. Both the school administrators and the colleagues emphasized that several approaches are influencing the implementation of child-centered learning in their schools. They see the TTP as part of a broad effort. They described the TTP participants as resources to other teachers who are attempting to implement developmentally appropriate practices in their classrooms. Yet the interview responses also indicated that the TTP in its current form is not enough. Administrators and staff in the focus schools want to know more about, among other things, assessment and curriculum content than is presently offered by the TTP. In addition, administrators are concerned about teachers who are resistant to change. The administrators would like help in motivating all teachers to shift to a child-centered educational approach. The TTP would have to widen the scope of its training to accommodate such needs on its own.

Staff development activities at the focus schools spring from various sources including school district mandates, teacher needs, and administrative priorities. The interview responses suggested that no school is going to put all of its eggs in one staff development basket. The challenge facing

an external entity such as the TTP is to become part of a coherent system of staff development within each school and school district it works.

This evaluation has demonstrated that the TTP has important knowledge for schools and teachers interested in implementing a developmentally appropriate approach in their educational program. Information and support offered by the TTP can be complemented by others either within or outside the school. One strategy the TTP may consider is to coordinate its work with other staff development activities and organizations in a school or school district. Coordination with others may lead to partnerships in which each partner can focus on its strengths and thereby contribute to the creation of school programs that are consistently developmentally appropriate and responsive to individual needs. Through assisting schools in programmatic change, the TTP can foster active learning in entire primary grade programs, which would in turn allow for the clear assessment of the long range benefits of developmentally appropriate practice.

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APPENDIX A

EARLY PRIMARY PRACTICES OBSERVATION SCALE

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Produced by

EARLY CHILDHOOD RESOURCES
AND
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FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

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Introduction

The Early Primary Practices Observation Scale (EPPOS; working title) is designed to assess the extent to which kindergarten and first grade classrooms operate along key dimensions of developmentally appropriate practice. The scale focuses on four domains of classroom practice:

- Organization of the Learning Environment
- Learning Materials and Curriculum
- Daily Routine
- Adult-Child Interaction and Intervention with Children

Within each of these domains, observers rate the teacher and classroom on specific items, for example, the division of space into activity areas or the balance between teacher-initiated and child-initiated activities.

This scale was created for the purpose of evaluating the implementation of the Teacher Training Project, an ongoing effort developed by Early Childhood Resources. This Project provides training to teachers in developmentally appropriate practice. The High/Scope curriculum forms the core of the training system; other elements are drawn from sources such as Bredekamp (1987). Similar to the training content, several sources influenced the creation of the EPPOS, most notably, the Program Implementation Profile (PIP), which was developed by the High/Scope Foundation. Fifteen of the twenty-nine EPPOS items were adapted from the PIP; however, none of them matches the precise wording of a PIP item. The other items correspond to elements of the Teacher Training Project curriculum that were drawn from other sources.

Although the EPPOS resembles the PIP in some important respects, all of the EPPOS' items reflect aspects of developmentally appropriate practice in general rather than specifically defined features of the High/Scope approach. In other words, the EPPOS has been designed for general use. Limited field testing of this instrument has thus far demonstrated that teachers may receive high ratings even if they have not been trained in any specific curricular approach.

The general structure of the EPPOS is a series of statements with a 5-point likert-type scale below each one. Definitions below points 1, 3, and 5 on the scale describe characteristics of teaching practices or classrooms that merit a rating at that point on the scale. In some cases, the descriptors are followed by examples of particular practices or features of classroom settings. Even with the degree of specificity that is provided in the descriptions, observers using the EPPOS will necessarily have to make inferences based on what they see in the classroom. Ratings by observers represent cumulative judgments resulting from at least one three-hour visit, and preferably two or three such visits, to a classroom. Various kinds of information guide the rating process. Seeing several

instances of a practice or of a classroom feature contributes to an overall impression formed by the observer. In contrast, judgments should not be based on the observation of one isolated incident. Finally, information that influences the rating process is not always directly observable in the short time an observer spends in a classroom. For example, an observer may overhear comments made by the teacher in conversations with students to determine whether a teacher emphasizes rote learning, even though the observer may not actually observe a teacher-directed rote learning episode.

In the present form of the EPPOS, it is appropriately used in the context of research and program evaluation activities. To date, no data are available on the use of the EPPOS by anyone other than research staff trained in observational data collection methods.

Information is currently being gathered on the reliability and validity of the EPPOS. Pilot reliability data look promising. Specifically, reliability tests using the current version of the instrument resulted in high levels of agreement between experienced observers and a newly trained observer. Exact agreements ranged between 58% and 72%, and agreements within one point on the scale ranged between 94% and 99%. When the scale was reduced down from a 5-point to a 3-point scale, the exact agreements ranged between 94% and 99%. Content validity of the EPPOS has been established through extensive consultation and review by the developers of the training curriculum. The review process is currently being expanded to include national experts on developmentally appropriate practice. In addition, the ongoing evaluation study of the Teacher Training Project will provide information on the relationship between EPPOS scores and student engagement in the classroom as well as between EPPOS scores and teacher responses to an interview on their educational philosophy and classroom practices.

I. ORGANIZATION OF THE LEARNING ENVIRONMENT

1. *The room is organized into well-defined activity areas.*

(1)	(2)	(3)	(4)	(5)
No activity areas are defined. Completely unrelated activities occur in same area at same time.		Limited division of space (e.g., 2 or 3 areas). Similar materials and related activities are in areas.		Entire room is clearly organized into functional areas. Similar materials and related activities are in each area. Areas are identified by signs, pictures, etc.

Comments:

2. *The room is arranged to facilitate children's movement and collaborative activities.*

(1)	(2)	(3)	(4)	(5)
Cramped work space greatly limits movement and reduces the number of children who can work in each area.		Inadequate space in **some** areas limits the number of children who can work together. Much of available space occupied by desks or tables.		Space allows for groups of children to work together in all areas. Desks are grouped, and tables are incorporated into the work areas.

Comments:

3. *Materials are logically grouped and clearly labeled.*

(1)	(2)	(3)	(4)	(5)
No order or system to materials is evident or few labels are used.		Similar items are placed together. Labels are used throughout much of the room. Labels consist of words only.		Materials are grouped by function or type. All materials are labeled. Words are used with other labeling strategies (e.g., tracings, pictures, photographs, real objects, words).

Comments:

4. *Materials for children are accessible to them.*

(1)	(2)	(3)	(4)	(5)
Materials cannot be easily reached by children or have to be brought out by adults. Display labels, etc., are often difficult for children to see.		Some materials are accessible to children. Some displays, labels, etc., are at children's eye level or easily seen.		All materials are accessible to children. All displays, labels, etc., are at children's eye level or easily seen.

Comments:

5. *There are enough materials in each area for several children to engage in similar activities simultaneously.*

(1)	(2)	(3)	(4)	(5)
Limited materials are in each area.		Adequate materials are in some but not all areas.		Adequate materials in each area. (For example, in the Block Area, there are enough building materials for several children to work at the same time.)

Comments:

6. *Areas that children use are free of unnecessary clutter, inappropriate materials and items being stored by the teacher.*

(1)	(2)	(3)	(4)	(5)
Teacher storage items and inappropriate or unnecessary materials are apparent throughout the room.		Some areas have inappropriate materials. Some teacher's storage items are in children's work areas.		Materials in children's work space are age appropriate. Teacher storage is separate from the children's work areas.

Comments:

7. *Classroom displays reflect children's work and activities.*

(1)	(2)	(3)	(4)	(5)
No materials, inappropriate materials for age group, or only teacher-made or commercial materials are displayed.		Some children's work is displayed.		A wide variety of children's work is displayed. Every child's work is represented. Three-dimensional (play-dough, carpentry, etc.) as well as 2-dimensional products are displayed.

Comments:

II. LEARNING MATERIALS AND CURRICULUM

8. *Raw materials, tools and information sources are available to the children.* [1]

(1)	(2)	(3)	(4)	(5)
Limited selection of materials.		Some areas provide a selection raw materials, tools, and information sources.		The room is richly supplied with: - **raw materials** (consumables like paper, paint, clay, blocks, natural construction materials, found items, collage materials) - **tools** (things used for computing, measuring, recording, joining, cutting, shaping, communications) - **information sources** (books, records, and tapes, posters, labels, living things, natural specimens, photos, charts, etc.)

Comments:

9. *A variety of **materials** promote an awareness of diversity among people and their experiences.*

(1)	(2)	(3)	(4)	(5)
No materials reflect diversity in cultures, environments, livelihoods, or physical abilities.		Some materials reflect diversity.		Materials throughout the classroom reflecting diversity (books, food, cooking, folk art, child-size wheelchair, prop boxes, tools from different types of jobs, music) are clearly displayed. These materials represent cultural groups not necessarily found in the classroom.

Comments:

10. *A variety of **materials** specifically reflects the **family backgrounds and experiences of the children** in the class.*

(1)	(2)	(3)	(4)	(5)
No materials reflect backgrounds and experiences of the children in the class.		Some materials reflect backgrounds and experiences of the children.		Materials throughout the room reflecting backgrounds and experiences of the children (books, dress-up clothes, photos of children's families, tools from different types of jobs, etc.) are clearly displayed.

Comments:

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11. *Various materials provide children with work opportunities in language and emergent literacy.*

(1)	(2)	(3)	(4)	(5)
Workbooks and basal readers are used. There are no or few other types of materials that support language development and emergent literacy.		Workbooks and basal readers may be used. Some materials support language development and emergent literacy.		Many materials throughout the room support language development and emergent literacy (address books, pad/pencils, road signs, sign-making equipment, materials to represent block structures, storybooks, reference books, games, puzzles, materials for writing letters and making books, writing instruments). In addition, there may be a Writing Area.

Comments:

12. *Language and literacy activities with an emphasis on meaning occur in the classroom.*

(1)	(2)	(3)	(4)	(5)
Discrete reading skills (learning letters, sounds) are emphasized.		Discrete skills are taught with limited attention to meaning. When teacher reads material to children they have little opportunity to explore or discuss its meaning.		Technical skills are taught as children engage in meaningful, natural language and literacy activities. A wide variety of reading activities are used such as children's literature, non-fiction, and child-produced materials.

Comments:

13. *Children are encouraged to use writing creatively to communicate their ideas.*

(1)	(2)	(3)	(4)	(5)
Correct spelling, penmanship and correct grammar are emphasized. Children's invented spelling and penmanship are rejected or corrected.		Although invented spelling is accepted, there is an emphasis on correct spelling and penmanship (writing on a line, copying words chosen by the teacher, etc.). Children have limited opportunities to express themselves through writing activities.		Children have opportunities to choose own topic for writing. Children's invented spelling is accepted and valued. Children are encouraged to express themselves through drawing, dictation, writing, making books.

Comments:

14. *Various* ***materials*** *provide children with work opportunities in mathematics.*

(1)	(2)	(3)	(4)	(5)
No materials support work in mathematics.		Some materials support work in mathematics.		Many materials throughout the room support work in mathematics. For example: - **matched sets** (cups/saucers, pegs/pegboards, etc.) - **seriated sets** (materials that vary in size, weight, texture, etc.) - **collections of items for estimating, counting, classifying, patterning and non-standard measurement** (manipulatives and found objects such as keys, buttons, walnuts, etc.) - **materials for exploring geometry** (parquetry blocks, geo-boards and 3-dimensional shapes, etc.) - **tools for measurement** (rulers, scales, containers and timers, etc.) - **board games that involve math concepts like counting, grouping, etc. and playing cards** **-calculators** **-storybooks involving math concepts.**

Comments:

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15. *Children are exposed to math through exploration, discovery and solving meaningful problems.*

(1)	(2)	(3)	(4)	(5)
Math is taught as a separate subject. Workbooks and practice sheets are focus of the math program. Hands-on activities not used. Absence of math manipulative materials.		Math manipulatives are used in conjunction with workbook pages or teacher directed activity.		Math is integrated with other relevant topics. Math skills acquired through spontaneous play, group games, projects and situations of daily living (examples include dividing into groups, reading stories that involve ideas about math; voting, tallying, distributing materials and collecting materials). Exploring math concepts through the use of manipulatives is emphasized.

Comments:

16. *Various materials provide children with work opportunities in science.*

(1)	(2)	(3)	(4)	(5)
No materials support work in science.		Some materials support work in science.		Many materials throughout the room support work in science. For example: **-things to observe** (animals, plants, natural phenomena) **- materials for exploring and experimenting with the physical world** (magnets, prisms, eye-droppers, microscopes, balances, timers, kaleidoscopes,pulleys, ramps, pendulums, etc.) **-books related to science** In addition, there is a Science Area.

Comments:

17. *Science activities build on children's natural interest in the world.*

(1)	(2)	(3)	(4)	(5)
No attention is given to science.		Science is taught through teacher-directed activities (for example, teacher demonstrated experiments).		Science activities are exploratory and experimental, and encourage active involvement of every child. Science facts are related to children's experience. Children are encouraged to apply thinking skills such as observing, hypothesizing, experimenting and verifying.

Comments:

III. DAILY ROUTINE

18. *Adults use various strategies to inform children about the daily routine.*

(1)	(2)	(3)	(4)	(5)
Adults do not talk to children about time blocks and sequences of activities; adults don't help children anticipate what is going to happen next.		Information about routine is communicated to children in limited ways; no daily routine is posted at children's eye level; adults only sometimes refer to time blocks and sequences; children are only sometimes made aware of transitions.		Adults consistently refer to the daily routine, naming time blocks and sequences; adults help children prepare for the transition from one time period to the next; the daily routine is posted at children's eye level (photos/ pictures and words are used).

Comments:

19. *The daily routine provides for both adult-initiated and child-initiated activities.*

(1)	(2)	(3)	(4)	(5)
There is a predominance of adult-directed whole group instruction and individual seat work.		There is some variety in the type of classroom activities. Adult-directed whole group instruction is emphasized. In addition, children have opportunities to work in small groups.		There is variety in the type of classroom activities throughout the day. Children have opportunities to work in the whole group, and in small groups, and **time to pursue their individual interests.**

Comments:

20. *During adult-initiated times of the day (e.g., small group time, whole group time) children have opportunities to initiate and carry out their own ideas.*

(1)	(2)	(3)	(4)	(5)
Children are expected to listen without opportunities for manipulating materials.		Although children are allowed to handle materials, they are directed to use materials in the same way; children are expected to produce similar products.		Children are free to use materials in their own way, and to share their ideas with adults and other children. Adults respond to, incorporate, and solicit children's ideas.

Comments:

21. *Children actively participate in planning how they use their work time to pursue individual interests.*

(1)	(2)	(3)	(4)	(5)
Children are not included in any planning activities.		Teacher describes plans to children while they sit passively. Children may be asked about what they plan to do but the teacher does not expand on their ideas.		Teacher uses planning strategies that encourage children to think about how they will use their time and classroom materials, and possibly how they will interact with others during worktime.

Comments:

22. *Adults use strategies that enable individual children and small groups of children to reflect on the day's activities.*

(1)	(2)	(3)	(4)	(5)
Adults do not ask children about what they have done.		Adults ask routine questions about children's activities. Adults mainly review activities in a whole group situation while children spend most of the time waiting and passively listening.		Adults regularly ask children to demonstrate what they have done (for example, re-enacting, showing, talking, writing), encourage children to elaborate on initial responses, as well as to share this with others in the group. Interactive recall strategies are used (interview questions from children, cooperative group recall, language experience chart, etc.).

Comments:

IV. ADULT-CHILD INTERACTION AND INTERVENTION WITH CHILDREN

23. *When children engage in self-directed activity, adults routinely observe them and use the strategies of commenting, restating, questioning and extending.*

(1)	(2)	(3)	(4)	(5)
Adults pay little attention to child-directed activity. When entering a new situation, the adult immediately starts talking and takes over without regard for the children's activity. Adults rarely ask children to talk about what they are doing; adults ask questions that can be answered with yes/no or one or two words. No follow-up to to children's responses. Adults don't comment on the activities of children.		Adults sometimes attend to children's self-directed activity. When entering a new situation the adult sometimes observes and attends to the activity of the children before initiating communication. Adults sometimes repeat what children say, and comment or ask questions based on the initial responses of children.		Adults give full attention to children's self-directed activity and help children extend their play without changing its direction. When entering a new situation the adult consistently waits, and observes the children's activity before initiating communication. Adult communication centers on the activity of the children. Adult restates and builds on what children say, and asks open-ended questions.

Comments:

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24. *Adults are respectful and responsive when communicating with children.*

(1)	(2)	(3)	(4)	(5)
Adults talk is directive. Children are expected to listen without making comments. Adults use exaggerated diction or unnatural intonation when talking with children. Adults don't speak to children at child's eye level. Adults usually talk to children who demand their attention.		Adults are sometimes directive. Sometimes adults dominate talk, and sometimes they engage in give and take conversation. Adults usually speak in a natural voice, but occasionally use unnatural intonations or exaggerated diction. Adults are inconsistent in speaking to children at their eye level. Adults tend to communicate with children who demand attention and only occasionally seek out quiet children.		Adults usually engage in give and take conversation with children; they speak naturally to children as they would with adults. Adults seek out quiet children to engage in conversation. Adults consistently speak to children at their eye level.

Comments:

25. *When children are engaged in learning activities, adults help them solve problems independently.*

(1)	(2)	(3)	(4)	(5)
When children encounter a problem in a learning activity, adults are not available to help.		When children encounter a problem in a learning activity, adults tell them what to do or solve the problem for them.		When children encounter a problem in a learning activity, adult interventions enable children to continue their activity on their own. For example, the adult asks a question or makes a suggestion that helps to clarify the problem for a child.

Comments:

26. *Adult communication encourages interaction and cooperation among children.*

(1)	(2)	(3)	(4)	(5)
Adults do not encourage children to collaborate on projects or solve problems together.		Adults occasionally encourage children to collaborate on projects. Adults do not re-direct children's comments and questions to other children.		Adults consistently encourage children to think about how they can **collaborate** on projects. Adults occasionally redirect children's comments and questions to other children.

Comments:

27. *Adults maintain reasonable limits while redirecting inappropriate behavior into problem-solving situations.*

(1)	(2)	(3)	(4)	(5)
Adults do not make rules/limits clear beforehand; rules are inconsistent; children are disciplined without explanations; expectations are not appropriate for age level of children (for example, sitting passively for long period of time). Adults rely primarily on punishment to control behavior.		Expectations for behavior are consistent and set out beforehand; adults still intervene or impose solutions without letting children help to generate alternatives.		Expectations for behavior are developmentally appropriate, set out beforehand, and consistent; adults tend to encourage children to explore alternative solutions to problem behaviors among themselves; adults explain why limits are being imposed.

Comments:

28. *Teachers support children's internal motivation to make sense of the world and acquire competence.*

(1)	(2)	(3)	(4)	(5)
Teachers attempt to motivate children through use of material rewards (stickers, stars, candy) or privileges.		Teachers offer non-specific praise and motivate children to please adults. (For example, a teacher might say, "that's great," or "I really like the way ..... is sitting, etc.")		Teachers recognize the effort children make with out regard to success or failure. Descriptive rather than evaluative language is used to talk about children's work and actions. (For example, a teacher might say, "you put a lot of thought into that problem").

Comments:

29. *Errors are used to understand the children's thinking and learning processes.*

(1)	(2)	(3)	(4)	(5)
When children make mistakes they are corrected by the teacher without explanation or exploration of the children's thinking.		Teachers give children "correct answers" in a non-threatening or non-critical way. Teachers often explain "correct answers" to children.		Teachers use children's errors as a way to understand how children are thinking. Rather than explicitly correcting children's errors, teachers pose questions to help children examine their thinking and reach alternative conclusions.

Comments:

Note:

1. The concepts of raw materials, tools and information sources were drawn from Loughlin, C. and Suina, J. (1982). *The learning environment: An instructional strategy.* New York: Teachers College Press.

APPENDIX B

Evaluation of the Teacher Training Project
Teacher Interview
Time 1

1. How would you describe your role as a teacher in the classroom?
2. How do you believe children learn?
3. What are your educational goals for the children in your class?
4. Briefly describe how you go about planning for student learning.
5. How does your classroom program reflect the interests and ideas of the children?
6. How do you assess students' learning? Why do you use the assessment approach you use?
7. Would you briefly describe the process that led you to enroll in the Teacher Training Project?

Evaluation of the Teacher Training Project
Teacher Interview
Time 2

1. Briefly describe changes you have made in your classroom environment since you began the Teacher Training Project.

2. Briefly describe changes you have made in the way you structure a typical day for your class group.

3. Has the way you handle other areas of the curriculum been influenced by your experience with the High/Scope approach?

4. How would you describe your role as a teacher in the classroom?

5. How do you believe children learn?

6. What are your educational goals for the children in your class?

   Follow-up prompts include:

   What competencies would you like to see develop in children?
   What personal attributes or qualities would you like to see the children develop?

7. Briefly describe how you go about planning for student learning.

8. How does your classroom program reflect the interests and ideas of the children?

9. How do you assess students' learning? Why do you use the assessment approach you use?

10. With whom have you shared information you've received from your training?

    Follow-up prompts:

    Colleagues in your building?
    The school's administration?
    Colleagues outside your building?

Teacher Interview Time 2, cont.

11. Briefly describe actions you have taken to share information about the training you have received.

    Follow-up:

    Please comment on both formal and informal steps you have taken. Formal steps include special events, and informal steps refer to your day-to-day contacts with people.

12. Have there been any shifts in your school's administrative policies and procedures to support your philosophy in the classroom?

    With respect to:

    1) reporting and assessment,
    2) retention/promotion policies, and
    3) curriculum planning and development.

Additional questions administered in February, 1994:

1. Has your training at Early Childhood Resources affected your decisions about retention?

2. How many students did you retain prior to training?

    In the 1991-92 school year?
    In the 1992-93 school year?

APPENDIX C

Evaluation of the Teacher Training Project
Observational Indicators of Children's Engagement

Autonomous, constructive use of time, activities, and materials: This indicator applies when a child is independently and constructively working with materials in the classroom. Examples of activities that fit within this classroom activity category include a child creating a story or making a book through a series of drawings, playing with math manipulative games, intently observing the actions of an animal such as a rabbit or hamster, making a puzzle, or looking at a book. There are three subcodes for this indicator: **Language/Literacy**, **Math/Science Exploration**, and **Other**.

Subcode: Language/Literacy. This subcode is recorded when the target child engages in any of the following activities:

- uses storybooks/tapes
- pretends or actually reads to self or dolls (systematically goes through book page by page following a story line)
- engages in fantasy play using storybook character(s)
- plays a game that involves reading or writing
- writes in any form to communicate
- scribbles
- draws
- produces random letters
- uses invented spelling
- uses conventional print
- makes up rhymes; uses rhymes in play
- reads environmental print
- reads back own thoughts (dictation or writing)
- makes books, signs, letters, notes (alone or through dictation)

Subcode: Math/Science Exploration. This subcode is recorded when the target child engages in any of the following activities:

- groups objects in categories (e.g., separates plates and cups at cleanup time)
- arranges several things in order along some dimension
- uses hands, feet, pencils, marbles, people, etc. to measure
- uses standard measurement tools (e.g., cups, ruler or scale)
- counts to solve problems in play
- counts real objects in play using one-to-one correspondence
- uses numerals in play for labels
- solves problems of equality by counting or measuring

Observational Indicators of Children's Engagement, cont.

- graphs to represent proportions
- makes things fit together (e.g., puzzles, block building, art constructions, 3-D collages, designing and building representative constructions like houses with manipulatives, legos, or blocks)

Subcode: Other. This subcode applies when the target child engages in autonomous/constructive activity that can neither be coded as Language/Literacy nor Math/Science Exploration. A short description of the specific activity is provided by the observer on the observation form.

Collaborative or cooperative constructive activity: This indicator applies when two or more children are engaged in a common activity to solve a problem, enact a performance, create a product, etc. Examples of activities that fit within this category include coordinating play with puppets, working on an art project together, reading to each other, telling each other stories, or sorting and organizing materials together. There are three subcodes for this indicator: **Language/Literacy**, **Math/Science Exploration**, and **Other**.

Subcode: Language/Literacy. This subcode is recorded when the target child engages in any of the following activities with at least one other child:

- talks about events, needs, ideas, interests, etc.
- talks about a story in a book
- listens to others
- responds to others by asking questions
- asks for help in how to write something
- engages in or directs dramatic play with others
- plays a game with others that involves reading or writing
- offers assistance to others who are playing a game
- negotiates rules of a game
- helps others with reading or writing
- plans an activity with others
- interprets another's drawing or writing
- pretends or actually reads to another child

Observational Indicators of Children's Engagement, cont.

Subcode: Math/Science Exploration. This subcode is recorded when the target child engages in any of the following activities with at least one other child:

- sequences events
- negotiates turns (patterning)
- predicts outcomes to another child
- infers cause and effect
- compares objects with another child
- builds, assembles, constructs with other children (e.g., with blocks, manipulatives, art materials, etc.)

Subcode: Other. This subcode applies when the target child engages in collaborative/cooperative activity that can neither be coded as Language/Literacy nor Math/Science Exploration.

3. Repetitive activity: This indicator applies when a child does the same simplistic action over and over again. The activity does not relate to a larger project, for example, making a story book, drawing a picture, or assembling a three-dimensional object. Examples of activities that fit within this category include repeatedly copying the same letter or drawing circles or other shapes.

4. Daydreaming: This indicator applies when a child sits or stands passively with a blank stare.

5. Aimless wandering: This indicator applies when a child appears lost or constantly moves around the classroom. He or she may momentarily look at or handle materials, but loses interest in them quickly.

6. Disorganized/disruptive activity: This indicator applies when the child's actions are disruptive or clearly without a constructive direction. Examples of actions that fit within this category are fighting (verbally or physically), running around, throwing materials, destroying materials, or using materials inappropriately.

7. With adult: This indicator applies when the child is participating in an activity that is in some way influenced by the presence of an adult (the classroom teacher, an instructional aide, or volunteer) or an older peer tutor. The child may be having a conversation with the adult, receiving instruction from the adult, requesting information from the adult, or working jointly on an activity with the adult. Other children may or may not be present in the situation. There are three subcodes for this indicator: Language/Literacy, Math/Science Exploration, and Other.

Observational Indicators of Children's Engagement, cont.

Subcode: Language/Literacy. This subcode is recorded when the target child engages in any of the following activities:

- uses storybooks/tapes
- pretends or actually reads to self or dolls (systematically goes through book page by page following a story line)
- engages in fantasy play using storybook character(s)
- plays a game that involves reading or writing
- writes in any form to communicate
- scribbles
- draws
- produces random letters
- uses invented spelling
- uses conventional print
- makes up rhymes; uses rhymes in play
- reads environmental print
- reads back own thoughts (dictation or writing)
- makes books, signs, letters, notes (alone or through dictation)

Subcode: Math/Science Exploration. This subcode is recorded when the target child engages in any of the following activities:

- groups objects in categories (e.g., separates plates and cups at cleanup time)
- arranges several things in order along some dimension
- uses hands, feet, pencils, marbles, people, etc. to measure
- uses standard measurement tools (e.g., cups, ruler or scale)
- counts to solve problems in play
- counts real objects in play using one-to-one correspondence
- uses numerals in play for labels
- solves problems of equality by counting or measuring
- graphs to represent proportions
- makes things fit together (e.g., puzzles, block building, art constructions, 3-D collages, designing and building representative constructions like houses with manipulatives, legos, or blocks)

Subcode: Other. This subcode applies when the target child engages in activity with an adult or older peer tutor that can neither be coded as Language/Literacy nor Math/Science Exploration. A short description of the specific activity should be provided on the observation form.

Observational Indicators of Children's Engagement, cont.

8. Other: This indicator applies when none of the seven major indicators of engagement adequately describe the target child's activity. A short description of the specific activity should be provided on the observation form.

APPENDIX D

RATING SCALE FOR CLASSROOM OF PRESCHOOL CHILDREN

STUDENT NAME: _____

STUDENT ID #: _____

SCHOOL: _____ ROOM NUMBER: _____ TEACHER: _____

These are statements which describe ways that children from 3 to 7 may behave in regular classroom and playground situations. Please read the entire item across the page, both left and right sides, decide which side best describes the child you are rating, and then check whether that is just sort of like this child or very much like this child. You will just check ONE of the four boxes for each statement.

Very much like this child	Sort of like this child		Sort of like this child	Very much like this child
1. ☐	☐	Prefers activities that stretch his/her abilities; sets high goals.	Does not prefer activities that stretch his/her abilities; does not set high goals.	☐ ☐
2. ☐	☐	Smiles infrequently; face often shows sadness or negative feelings.	Smiles readily; face does not often show sadness or negative feelings.	☐ ☐
3. ☐	☐	Doesn't trust his/her own ideas; acts uncertain in making decisions; needs suggestions from others.	Trusts his/her own ideas; knows what he/she wants; is able to make choices and decisions.	☐ ☐
4. ☐	☐	Moves forward to do things on his/her own; takes initiative.	Does not move forward to do things on his/her own; does not take initiative.	☐ ☐
5. ☐	☐	Reacts to stress with immature, inappropriate, or out of control behavior.	Does not react to stress with immature, inappropriate, or out of control behavior.	☐ ☐
6. ☐	☐	Approaches challenging tasks with confidence.	Lacks confidence to approach challenging tasks; shys away from challenge.	☐ ☐
7. ☐	☐	Able to assert his/her point of view with other children when opposed.	Not able to assert his/her point of view with other children when opposed.	☐ ☐
8. ☐	☐	Does not hang back; does more than watch, is involved.	Hangs back; watches only or or doesn't get involved.	☐ ☐
9. ☐	☐	Describes self in generally negative terms.	Describes self in generally positive terms.	☐ ☐
10 ☐	☐	Is easily offended; over-reacts to criticism and teasing.	Able to handle criticism and teasing without over-reacting.	☐ ☐

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	Very much like this child	Sort of like this child		Sort of like this child	Very like child
11.	☐	☐	Is able to set goals independently.	☐	☐
12.	☐	☐	Hits others aggressively when angry or frustrated.	☐	☐
13.	☐	☐	Makes good eye contact.	☐	☐
14.	☐	☐	Does not lead others spontaneously and does not initiate group activities.	☐	☐
15	☐	☐	Withdraws from group activities; stays on sidelines or doesn't get involved.	☐	☐
16.	☐	☐	Lacks confidence to initiate activities.	☐	☐
17.	☐	☐	Eager to try doing new things.	☐	☐
18.	☐	☐	Reacts appropriately to accidents and mistakes, taking blame when reasonable.	☐	☐
19.	☐	☐	Not curious, does not explore or question.	☐	☐
20.	☐	☐	Does not move easily from parents to school context; not comfortable with transitions.	☐	☐
21.	☐	☐	Tolerates frustration caused by his/her mistakes; perseveres.	☐	☐
22.	☐	☐	Does not have trouble sharing, cooperating, and playing with other children.	☐	☐
23.	☐	☐	Shows pride in his/her work or accomplishments.	☐	☐
24.	☐	☐	Has difficulty adjusting to changes and open-ended situations.	☐	☐

APPENDIX E

Evaluation of the Teacher Training Project
Portfolio Documentation Form
Facesheet

School_____
Child ID_____
Date_____
Observer_____

1. Is order present in the portfolio

   Are Work Samples dated?

   Are the kinds of things sampled done across time, e.g., anecdotes about math thinking sampled across time?

2. Is there any written summary or assessment? Is the written summary ongoing and periodic or only done at the end of the school year?

   By the teacher?

   By the parent?

   By the student?

3. What indicators of progress are apparent to the reader of the portfolio?

4. How might contents of the portfolio be used to demonstrate educational progress across time?

5. Additional comments or observations.

Evaluation of the Teacher Training Project
Portfolio Documentation Form
Teacher Interview

School_____
Child ID_____
Date_____
Observer_____

1. What is the purpose and use of portfolios in your classroom?

2. Are the parent and the child involved in creating and managing the portfolio? If so, what form does it take? For example, do the parent and child decide what needs to be worked on by the child?

3. How and to what extent is the portfolio individualized?

   According to the child's needs?

   According to the child's interests and competencies?

4. Who determines what goes into the portfolio? Please explain.

5. Are there other formats for recording the kind of information that might appear in the portfolio, e.g., written anecdotes, progress reports, etc.?

Evaluation of the Teacher Training Project
Portfolio Documentation Form
Identification and Description of Work Samples

School_____
Child ID_____
Date_____
Observer_____

WORK SAMPLES:

Art (2 dimensional and photos of three dimensional products)

Description:

Number of Samples:

Language/Literacy (dictation, journals, child-made books, audio samples)

Description:

Number of Samples:

Math Samples (photos of patterning, "worksheets")

Description:

Number of Samples:

Identification and Description of Work Samples, cont.

Science Samples

Description:

Number of Samples:

Photos of Other Work

Description:

Number of Samples:

TEACHER OBSERVATIONS

Personal/Social Development

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Language/Literacy

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Identification and Description of Work Samples, cont.

Mathematical Thinking

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Scientific Thinking

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Social/Cultural Understanding

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Art and Music

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Identification and Description of Work Samples, cont.

Physical Activity

Written/Anecdotal_____or Checklist/Continuum/Rubric_____

Description:

Additional questions for teacher based on the review of the portfolio:

APPENDIX F

Evaluation of the Teacher Training Project
School Record Data Form

School_____
Child ID_____
Date of Child's Birth_____
School Year_____**1991-92**_____**1992-93**
Date_____
Research Assistant_____

Attendance

1st half of school year:

Number of days present_____Total number of days_____

2nd half of school year:

Number of days present_____Total number of days_____

Standardized Test Scores

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

School Record Data Form, cont.

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

Name of Test_____
Name of Scale_____
Date of Test_____
Raw Score (if available)_____
Grade Equivalent Score (if available)_____
Percentile (if available)_____
Other (specify type of score)_____

APPENDIX G

Evaluation of the Teacher Training Project
Administrator Interview
Time 1

1. How have you received information about the High/Scope Teacher Training Project that (Teacher's name) has been participating in?

2. How relevant is this information to your school?

3. What have you done in response to the information you have received?

4. Is there additional information that you would like Early Childhood Resources to provide to you? What else do you or your colleagues feel you need to learn about developmentally appropriate practice?

5. How does staff development at your school relate to curricular change?

6. What are the barriers to curricular change that require a long range staff development program?

7. What are the benefits of long range staff development? What are the disadvantages?

8. What are the benefits of short range staff development, in particular one-time training events? What are the disadvantages?

9. How does your school go about planning staff development activities?

10. How have teachers or staff at your school responded to participation in the High/Scope Teacher Training Project?

Evaluation of the Teacher Training Project
Administrator Interview
Time 2

1. In the past year have you received additional information about the High/Scope Teacher Training Project?

2. Has this new information been relevant to your educational program or practices?

3. Over the past two years have there been any changes in our school's educational program or approach to staff development as a result of (Teacher's name) participating in the Teacher Training Project? If yes, please describe the changes.

4. At this point in time, what else do you or your colleagues need or desire to learn about developmentally appropriate practice?

5. Do you foresee any additional changes in your school's educational program as a result of (Teacher's name) participation in the Teacher Training Project? If yes, please describe.

6. What do you consider to be the most valuable aspects of the Teacher Training Project?

7. From what you know about the Teacher Training Project, are there any changes in its content or structure that you would recommend?

8. How have you shared information you've gained from the Teacher Training Project with other teachers or colleagues?

APPENDIX H

Evaluation of the Teacher Training Project
Colleague Interview
Time 1

1. How have you received information about the High/Scope Teacher Training Project that (Teacher's name) has been participating in?

2. How relevant is this information to your school?

3. What have you done in response to the information you have received?

4. Is there additional information that you would like Early Childhood Resources to provide to you? What else do you or your colleagues feel you need to learn about developmentally appropriate practice?

Evaluation of the Teacher Training Project
Colleague Interview
Time 2

1. In the past year have you received additional information about the High/Scope Teacher Training Project?

2. Has this new information been relevant to your educational program or practices?

3. Over the past two years have there been any changes in our school's educational program or approach to staff development as a result of (Teacher's name) participating in the Teacher Training Project? If yes, please describe the changes.

4. At this point in time, what else do you or your colleagues need or desire to learn about developmentally appropriate practice?